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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,020	06/11/2002	Walter Frisch	R.36040-1	2615
2119	7590	05/18/2005	EXAMINER	
RONALD E. GREIGG GREIGG & GREIGG P.L.L.C. 1423 POWHATAN STREET, UNIT ONE ALEXANDRIA, VA 22314			NGUYEN, TU MINH	
			ART UNIT	PAPER NUMBER
			3748	

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/019,020

Applicant(s)

FRISCH et al.

Examiner

Tu M. Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 11 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. An Applicant's Preliminary Amendment filed on June 11, 2002 has been entered. Claims 1-7 have been canceled. Claims 8-19 have been added and are pending in this application.

Specification

2. The abstract of the disclosure is objected to because of the use of legal phrase "means" on lines 3-7. Correction is required. See MPEP § 608.01(b).

Claim Objections

3. Claims 10 and 11 are objected to because the phrase "can be" is indefinite. Thus, "can be" should read --are--. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 8-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hofmann et al. (U.S. Patent 5,884,475) in view of Moore et al. (U.S. Patent 6,180,925).

Re claim 8, as shown in Figure 4, Hofmann et al. disclose an apparatus for metering a reducing agent, in particular a urea or a urea-water solution, comprising:

- means (28, 26) for air delivery into a mixing chamber (20),
- means (4, 12, 16, 18) for metered reducing agent delivery into the mixing chamber (20),
- means (34) for forming an aerosol using the components delivered to the mixing chamber (20), and

- means (controller) for metered dispensing of the aerosol into an aerosol line (12),

wherein the means (28, 26) for the air delivery, the means (4, 12, 16, 18) for the metered reducing agent delivery, and the mixing chamber (20) all being integrated with heating line (46), the air delivery being meterable.

Hofmann et al., however, fail to disclose that the heating line is a block or an element of an electrically conductive plastic.

As shown in Figure 1, Moore et al. teach a heating element for a liquid heating vessel, comprising a dielectric insulating layer such as plastic (lines 27-32 of column 1) and a heating track (4). In the event of relatively high temperature, the plastic melts and causes disconnection of the electrical supply to the heating track. It would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the heating element taught by Moore et al. in the apparatus of Hofmann et al., since the use thereof would have prevented extremely dangerous high temperature and pressure of the reducing agent due to a failure of the controller to disconnect electricity to the heating element.

Re claim 9, in the modified apparatus of Hofmann et al., the block or the element is produced from a plastic to which electrically conductive particles (see Moore et al.: heating track (4)) are added.

Re claims 10-11, in the modified apparatus of Hofmann et al., the block or the element is embodied with electrodes ((6) in Moore et al.) that are subjected to a voltage.

Re claims 12-15, in the modified apparatus of Hofmann et al., the means for air delivery comprising an air medium delivery line (26), an air pressure regulating valve (20), an air pressure sensor (not shown but obviously must have), a check valve (20), and a metering valve (20).

Re claims 16-19, in the modified apparatus of Hofmann et al., the means for reducing agent delivery have a reducing agent delivery line (12), a pump (18), a pressure regulator (20), a pressure damper (pressure equalization line (not shown but mentioned)), a metering valve (20), and at least one check valve (20).

Prior Art

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of five patents and one patent application: Rahbar et al. (U.S. Patent 5,820,099), Wu et al. (U.S. Patent 6,293,097), Yoshida (U.S. Patent 6,315,969), Weigl (U.S. Patent 6,519,935), Mathew (U.S. Patent 6,589,420), and Huber et al. (U.S. Patent Application 2005/0069468) further disclose a state of the art.

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Communication

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Tu Nguyen whose telephone number is (571) 272-4862.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Thomas E. Denion, can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TMN

May 16, 2005

Tu M. Nguyen

Tu M. Nguyen

Primary Examiner

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